rest. Such monitoring allows changing techniques of CPR and drug dosages to optimize resuscitation for an individual patient. It also allows an early identification of inadequate perfusion in a patient despite all attempts and which patients are unlikely to benefit from further resuscitation efforts.

MICHAEL CALLAHAM, MD
San Francisco

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Cocaine Intoxication

COCAINE CONTINUES TO BE a major drug of abuse with serious medical, public health, and socioeconomic implications. It has been estimated that 10 million people are occasional or regular users of cocaine. In 1987 there were 1,700 cocaine-induced deaths in the United States. Given its extensive use and addicting properties, medical practitioners should be prepared to recognize and treat its numerous toxic effects.

Cocaine has multiple sites and mechanisms of action that include stimulating the release and blocking the reuptake of catecholamines at specific central and peripheral nervous system neurotransmission sites. This results in excess sympathetic stimulation and increases circulating catecholamines. The contribution of the local anesthetic actions of cocaine to systemic toxic effects is unknown. The clinical effects of cocaine toxicity cover a wide spectrum. Sudden death from cocaine use has been well described and probably occurs from an acute cardiac event or seizures. Although a commonly discussed toxic effect of cocaine is on behavior, only 29.2% of patients in one study presented with an altered mental state—agitation, hallucinations, or delusions—as their chief symptom. Medical complications can commonly involve numerous organ systems and include cardiovascular collapse, myocardial infarction, chest pain, arrhythmias, syncope, seizures, headaches, asthma, abdominal pain, transient ischemic attacks, and stroke. Thus, cocaine use should be suspected in some patients when underlying causes of symptoms cannot be identified. A urine immunoassay can detect cocaine metabolites two days after use.

In recent years, the route by which cocaine abuse occurs has changed. Intravenous use has dramatically increased and has a higher potential to induce acute toxic effects. In addition, a nonion complexed form, "crack," is readily available. Unlike cocaine hydrochloride, crack when heated vaporizes and can be quickly absorbed through the lung, resulting in high serum concentrations.

The treatment of acute cocaine intoxication has been the subject of much debate. Pharmacologic agents have often been empirically selected to reverse abnormal behavior and symptoms and have not necessarily been directed toward the underlying mechanisms of cocaine toxicity. In cases of severe agitation or seizures, diazepam, 5 to 10 mg, should be given intravenously and the dose titrated to a clinical response. Clinically significant palpitations respond well to the intravenous administration of propranolol hydrochloride. Patients having myocardial ischemia should be treated with nitrates and possibly other agents and admitted to hospital. Patients who present with a hypertensive crisis should be treated with intravenous agents such as phentolamine, propranolol, or sodium nitroprusside. Labetalol hydrochloride has been used as an alternative to propranolol, but its advantages have not been clearly proved. Recent studies on animals suggest that diazepam or propranolol may be superior to labetalol or haloperidol in preventing cocaine-induced death.

The treatment of patients who have become chronically dependent on cocaine includes a supervised detoxification program. Initial trials of multiple classes of pharmacologic agents have to date identified several tricyclic antidepressants as showing promise in treating addiction in habitual cocaine users.

ROBERT W. DERLET, MD
T. E. ALBERTSON, MD, PhD
Sacramento, California

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HIV Disease and Emergency Medicine

EMERGENCY MEDICAL PERSONNEL at all levels need to know about and take precautions against human immunodeficiency virus (HIV) disease because they are likely to see persons with HIV infection in the course of their work and are thus at an increased risk of occupationally acquired HIV infection. The latter results from both the large number and the nature of patients typically seen in the course of emergency medicine practice and the potential for intensive and uncontrolled exposure to blood and other bodily fluids in the course of rendering emergency care.

Recent data from Johns Hopkins University Hospital (Baltimore) have shown that nearly 8% of critically ill or injured patients visiting the emergency department were infected with HIV. The actual prevalence of HIV infection among emergency department patients in western states is not well defined, but several studies in this regard are now underway.

A wide range of HIV-infected persons are likely to be cared for, at least initially, by emergency medical personnel. The most common type of HIV-infected person to be seen in an emergency department is someone who may or may not be aware of his or her HIV status but who is asymptomatic for HIV infection and has an injury or non-HIV-related illness. Other HIV-infected patients may, for various reasons, use the emergency department as their only source of care. And, of course, some will be in need of emergency care as a result of critical complications of the acquired immunodeficiency disease (AIDS). Patients may not be able to communicate information about their HIV status to emergency medical personnel or, for various reasons (including fear of discrimination), may choose not to share the information.

Recent data from California and elsewhere show that most patients with AIDS and HIV-seropositive persons continue to be from those groups generally recognized to be at high risk for HIV infection. These include homosexual and bisexual men, intravenous drug abusers, persons with hemophilia, recipients of HIV-contaminated blood, and sexual partners of all of these persons. Of the 17,164 AIDS cases